

REMARKS

In response to the action, Applicants amended claims 1, 2, 6, 9 and 10. Applicants respectfully request reconsideration in view of the amendments and the following remarks.

Applicants amended independent claims 1, 6, 9 and 10 in a similar manner to clarify the scope of the invention. In particular, the adhesive layers can create stresses that result in curling of the subpad. Paragraph 26, lines 1 to 6 provides a basis for the limitation. In addition, claim 1, step d) now includes the subpad having second adhesive layer to clarify the timing of the steps. Paragraph 27, lines 1 to 3 and Paragraphs 44 and 45 provide a basis. Claim 2 includes a style change of the article from "said" to --the--. Applicants respectfully submit that the amended claims enter no new matter.

The action rejects claim 1 under 35 U.S.C. § 102(b) for anticipation by Swisher et al. (US Pat. No. 6,477,926). Swisher et al. disclose a double-sided adhesive sheet 51, 54 and 57 that connects the polishing pad 33 to a backing sheet 39. It is unclear whether backing sheet 39 is equivalent to a subpad. Assuming backing sheet 39 is equivalent to a subpad, the reference fails to disclose the following: 1) applying a double-sided adhesive layer to each side of the subpad; 2) a double-sided adhesive layer between the pad and subpad that can curl a subpad; or 3) the order of applying a double-sided adhesive layer first to a subpad, then adding the subpad to the polishing pad. Thus, since Swisher et al. fail to disclose applying a double-sided adhesive layer to each side of the subpad; a double-sided adhesive layer that can curl a subpad or the order of adding the layers, Swisher et al. fail to anticipate amended claim 1.

The action rejects claim 1 as being anticipated under 35 U.S.C. § 102(c) by Kodaka et al. (US Pat. Pub. No. 2005/0150594). Kodaka et al. disclose adhesive 203 that connects pad 201 to subpad 205. Kodaka et al. fail to disclose the following: 1) applying a double-sided adhesive

layer to each side of the subpad; 2) a double-sided adhesive layer between the pad and subpad that can curl a subpad; or 3) the order of applying a double-sided adhesive layer first to a subpad, then adding the subpad to the polishing pad. Thus, since Kodaka et al. fail to disclose applying a double-sided adhesive layer to each side of the subpad; a double-sided adhesive layer that can curl a subpad; or the order of adding the layers, Kodaka et al. fail to anticipate amended claim 1.

The action rejects claim 3 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Swisher et al. in view of Sawamoto et al. (US Pat. No. 5,318,835) and Lühmann et al. (US Pat. No. 5,897,949). First, Swisher et al. disclose the use of an adhesive to bond a pad to a backing sheet. Applicants claim adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad or teach adding two double-sided adhesive layers to a flexible substrate prone to curling, the combined references fail to disclose or suggest the method of claim 3, as amended.

The action rejects claim 4 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Swisher et al. in view of Sawamoto et al. and Lühmann et al. and further in view of Chumbley (US Pat. No. 5,716,687). Swisher et al. disclose the use of an adhesive to bond a pad to a backing sheet. But Applicants claim adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the

combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Furthermore, Chumbley et al. fail to disclose the use of roll goods to apply double-sided adhesive to a subpad capable of curling. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad; teach adding two double-sided adhesive layers to a flexible substrate prone to curling; or teach the use of roll goods to apply a double-sided adhesive layer to two sides of a subpad prone to curling, the combined references fail to disclose or suggest the method of claim 4, as amended.

The action rejects claims 5 and 10 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Swisher et al. in view of Sawamoto et al. and Lühmann et al. and optionally in view of Kodaka et al. Swisher et al. disclose the use of an adhesive to bond a pad to a backing sheet. But Applicants claim adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Furthermore, Kodaka et al. fail to disclose the order of adding adhesive to the subpad and polishing pad. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad; or teach adding two double-sided adhesive layers to a flexible

substrate prone to curling; the combined references fail to disclose or suggest the method of claims 5 and 10, as amended.

The action rejects claim 3 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Kodaka et al. in view of Sawamoto et al. and Lühmann et al. Kodaka et al. do not disclose Applicants' claimed adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad or teach adding two double-sided adhesive layers to a flexible substrate prone to curling, the combined references fail to disclose or suggest the method of claim 3, as amended.

The action rejects claim 4 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Kodaka et al. in view of Sawamoto et al. and Lühmann et al. and further in view of Chumbley et al. Kodaka et al. do not disclose Applicants' claimed adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Furthermore, Chumbley et al. fail to disclose the use of roll goods to apply double-sided adhesive to a subpad capable of curling. Thus, since the

claimed combination of references do not disclose the order of forming a stacked polishing pad; teach adding two double-sided adhesive layers to a flexible substrate prone to curling; or teach the use of roll goods to apply a double-sided adhesive layer to two sides of a subpad prone to curling, the combined references fail to disclose or suggest the method of claim 4, as amended.

The action rejects claims 5 and 10 as being obvious under 35 U.S.C. § 103(a) as being unpatentable over Swisher et al. in view of Sawamoto et al. and Lühmann et al. and optionally in view of Kodaka et al. Kodaka et al. do not disclose Applicants' claimed adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The prior art method was to add the pressure sensitive adhesive to the polishing pad to first provide rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Furthermore, Kodaka et al. fail to disclose the order of adding adhesive to the subpad and polishing pad. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad; or teach adding two double-sided adhesive layers to a flexible substrate prone to curling; the combined references fail to disclose or suggest the method of claims 5 and 10, as amended.

The action rejects claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Komukai et al. (US Pat. Pub. No. 2003/0171081) in view of Swisher et al. or Kodaka et al. At paragraph 50, Komukai et al. disclose adding in sequence the pressure sensitive adhesive to the polishing pad, then the subpad, then to the top of the subpad. Since this method avoids the adverse impact of adding a double-sided adhesive first to the subpad, it teaches away from Applicants' claimed invention. Furthermore Swisher et al. and Kodaka et al. fail to disclose applying a double-sided

adhesive layer to at least one side of the subpad, then the combination to the polishing pad or a double-sided adhesive layer that can curl a subpad or the order of adding the layers. Thus, since Komukai et al. teach away from the invention by first adding the pressure sensitive adhesive to a subpad, then the polishing pad, and the combined references fail to teach the claimed order for adding double-sided adhesive layers to a subpad prone to curling, Applicants respectfully submit that the combined references fail to render claim 1, as amended, obvious.

The action rejects claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Komukai et al. in view of Swisher et al. or Kodaka et al. and further in the collective view of Sawamoto et al. and Lühmann et al. Komukai et al. do not disclose Applicants' claimed adding a double-sided pressure sensitive adhesive layer capable of curling a subpad to at least one side of the subpad and then adding the combination to the polishing pad. The Komukai et al. reference teaches away by disclosing first adding the pressure sensitive adhesive to the polishing pad that provides rigidity and then adding the combination to the subpad. This method reduced tendency to curl, but has the disadvantage of placing an extra layer or contamination from the extra layer that may reduce signal strength when using the polishing pad for endpoint detection. Thus, since the claimed combination of references do not disclose the order of forming a stacked polishing pad or teach adding a double-sided adhesive layers to a subpad in a manner where the subpad is prone to curling, the combined references fail to disclose or suggest the method of claim 3, as amended.

The action rejects claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Komukai et al. in view of Swisher et al. or Kodaka et al. and further in the collective view of Sawamoto et al. and Lühmann et al. and further in view of Chumbley et al. Applicants respectfully submit for the reasons set for to Claim 3 above and in view of Chumbley et al. failing to disclose adding


pressure sensitive adhesive from roll-good form to a subpad prone to curling, the combined references fail to render claim 4, as amended, obvious.

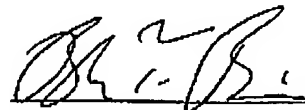
The action rejects claims 5 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Komukai et al. in view of Swisher et al. or Kodaka et al. and further in the collective view of Sawamoto et al. and Lüthmann et al. and optionally in view of Kodaka et al. The combined references fail to disclose the claimed method of adding a double-sided adhesive layer to a subpad prone to curling and then adding the subpad to the polishing pad. Thus, since the combined references fail to disclose or suggest the claimed invention, Applicants respectfully submit that claims 5 and 10 are patentable in view of the combined references.

The action rejects claims 2, 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable Komukai et al. in view of Swisher et al. and /or Kodaka et al. in view of the collective teachings of Sawamoto et al. and Lüthmann et al. and optionally in view of Beaudry (US Pat. No. 6,676,501). Beaudry teach the cutting of a pad after the application of an adhesive. Beaudry et al. do not teach adding adhesive to both sides of a subpad prone to curling, then cutting an opening in the pad and then attaching the subpad to the polishing pad. The claimed method is particularly useful because it avoids the signal loss associated with sending laser light through a window and the step of removing adhesive adjacent to polishing pad window. Thus, since the combined references do not teach adding double-sided adhesive to both sides of a subpad prone to curling and then cutting an opening to avoid the signal loss or clearing step associated with removing adhesive adjacent the window, Applicants respectfully submit that claims 2, 6 and 9, as amended, are not obvious in view of the combined references.

Applicants respectfully submit that the amended claims are in proper form for allowance and respectfully request reconsideration. If a telephone call would expedite prosecution, please call Applicants' attorney.

Respectfully submitted,


Date


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